

**AMENDMENTS TO THE CLAIMS:**

Please add new claims 61-65 and amend claims 9, 24, 31, 39, 50, and 54, as denoted in the following listing. This listing of claims will replace all prior versions and listings of claims in the application:

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1. (Original) A method for evaluating customer value to guide loyalty and retention programs comprising the steps of:
- calculating an individual customer's tenure based on attributes relating to a plurality of current customer accounts;
  - generating a hazard function for each of a plurality of new customers to determine probability of churn based on the individual customer's tenure;
  - calculating a gain in lifetime value for each of the plurality of new customers; and
  - determining a focus for a loyalty and retention program based on at least one of the hazard function and gain in lifetime value for each of the plurality of new customers.
2. (Original) The method of claim 1, wherein calculating the gain in lifetime value includes:
- calculating a lifetime value based on contract terms and revenue generated for each of the plurality of new customers;
  - calculating the gain in lifetime value by considering a new contract period using the formula  $ER^*_i - ER_i(0) = GLTV$ .

3. (Original) The method of claim 1, wherein determining a focus for a loyalty and retention includes:

analyzing the shape of the hazard function generated for each of the plurality of new customers; and

specifying a set of marketing techniques based on the shape of the hazard function.

4. (Original) The method of claim 1, wherein determining a focus for a loyalty and retention program includes:

specifying a set of incentives offered to the plurality of new customers based on the gain in lifetime value.

5. (Original) The method of claim 3, wherein specifying the set of marketing techniques based on the shape includes:

determining, based on the shape of the hazard function, there is no effect on churn of a contract expiration.

6. (Original) The method of claim 5, wherein specifying the set of marketing techniques includes:

taking no further steps to deter churn.

7. (Original) The method of claim 3, wherein specifying the set of marketing techniques based on the shape includes:

determining, based on the shape of the hazard function, that there is a small increase in probability of churn at contract expiration, with an elevated post-expiration churn.

8. (Original) The method of claim 7, wherein specifying the set of marketing techniques includes:

having a moderate pre-expiration effort where new contracts or continued contracts are the goal.

9. (Currently amended) The method of claim 3, wherein specifying the set of marketing techniques based on the shape ~~include~~ includes:

determining, based on the shape of the hazard function, that there is a large spike indicating high probability of churn at contract expiration and low probability of churn thereafter.

10. (Original) The method of claim 9, wherein specifying the set of marketing techniques includes:

concentrating effort on pre-expiration of contract where a contract renewal may not be required.

11. (Original) The method of claim 3, wherein specifying the set of marketing techniques based on the shape includes:

determining, based on the shape of the hazard function, that there is a large increase in probability of churn at expiration with high and increasing post-expiration probability of churn.

12. (Original) The method of claim 11, wherein specifying the set of marketing techniques includes:

having a high intensity pre-expiration effort with continued competitive offers to maintain customer.

13. (Original) The method of claim 3, wherein specifying the incentives includes:  
determining that value of the set of incentives offered to each of the plurality of new customers does not exceed the gain in lifetime value.

14. (Original) The method of claim 3, wherein analyzing the shape of the hazard function includes:

clustering all of the hazard functions for each of the plurality of new customers so that hazard functions with similar shapes can be grouped together.

15. (Original) The method of claim 14, wherein analyzing the shape of the hazard function includes:

determining, based on the overall shape of the clustered hazard functions, what retention efforts to take to keep a new customer.

16. (Original) An apparatus for evaluating customer value to guide loyalty and retention programs comprising:

a calculating module for calculating an individual customer's tenure based on attributes relating to a plurality of current customer accounts;

a generating module for generating a hazard function for each of a plurality of new customers to determine probability of churn based on the individual customer's tenure;

a calculating module for calculating a gain in lifetime value for each of the plurality of new customers; and

a determining module for determining a focus for a loyalty and retention program based on at least one of the hazard function and gain in lifetime value for each of the plurality of new customers.

17. (Original) The apparatus of claim 16, wherein the calculating module for calculating the gain in lifetime value includes:

a calculating module for calculating a lifetime value based on contract terms and revenue generated for each of the plurality of new customers;

a calculating module for calculating the gain in lifetime value by considering a new contract period using the formula  $ER^* - ER_i(0) = GLTV$ .

18. (Original) The apparatus of claim 16, wherein the determining module for determining a focus for a loyalty and retention includes:

an analyzing module for analyzing the shape of the hazard function generated for each of the plurality of new customers; and

a specifying module for specifying a set of marketing techniques based on the shape of the hazard function.

19. (Original) The apparatus of claim 16, wherein the determining module for determining a focus for a loyalty and retention program includes:

a specifying module for specifying a set of incentives offered to the plurality of new customers based on the gain in lifetime value.

20. (Original) The apparatus of claim 18, wherein the specifying module for specifying the set of marketing techniques based on the shape includes:

a determining module for determining, based on the shape of the hazard function, there is no effect on churn of a contract expiration.

21. (Original) The apparatus of claim 20, wherein the specifying module for specifying the set of marketing techniques includes:

a taking module for taking no further steps to deter churn.

22. (Original) The apparatus of claim 18, wherein the specifying module for specifying the set of marketing techniques based on the shape includes:

a determining module for determining, based on the shape of the hazard function, that there is a small increase in probability of churn at contract expiration, with an elevated post-expiration churn.

23. (Original) The apparatus of claim 22, wherein the specifying module for specifying the set of marketing techniques includes:

a having module for having a moderate pre-expiration effort where new contracts or continued contracts are the goal.

24. (Currently amended) The apparatus of claim 18, wherein the specifying module for specifying the set of marketing techniques based on the shape ~~include~~ includes:

a determining module for determining, based on the shape of the hazard function, that there is a large spike indicating high probability of churn at contract expiration and low probability of churn thereafter.

25. (Original) The apparatus of claim 24, wherein the specifying module for specifying the set of marketing techniques includes:

a concentrating module for concentrating effort on pre-expiration of contract where a contract renewal may not be required.

26. (Original) The apparatus of claim 18, wherein the specifying module for specifying the set of marketing techniques based on the shape includes:

a determining module for determining, based on the shape of the hazard function, that there is a large increase in probability of churn at expiration with high and increasing post-expiration probability of churn.

27. (Original) The apparatus of claim 26, wherein the specifying module for specifying the set of marketing techniques includes:

a having module for having a high intensity pre-expiration effort with continued competitive offers to maintain customer.

28. (Original) The apparatus of claim 18, wherein the specifying module for specifying the incentives includes:

a determining module for determining that value of the set of incentives offered to each of the plurality of new customers does not exceed the gain in lifetime value.

29. (Original) The apparatus of claim 18, wherein the analyzing module for analyzing the shape of the hazard function includes:

a clustering module for clustering all of the hazard functions for each of the plurality of new customers so that hazard functions with similar shapes can be grouped together.



30. (Original) The apparatus of claim 29, wherein the analyzing module for analyzing the shape of the hazard function includes:

a determining module for determining, based on the overall shape of the clustered hazard functions, what retention efforts to take to keep a new customer.

31. (Currently amended) A computer-readable medium ~~containing~~ including instructions, executable by a processor, for performing a method for evaluating customer value to guide loyalty and retention programs, the method comprising:

calculating an individual customer's tenure based on attributes relating to a plurality of current customer accounts;

generating a hazard function for each of a plurality of new customers to determine probability of churn based on the individual customer's tenure;

calculating a gain in lifetime value for each of the plurality of new customers; and

determining a focus for a loyalty and retention program based on at least one of the hazard function and gain in lifetime value for each of the plurality of new customers.

32. (Original) The computer-readable medium of claim 31, wherein calculating the gain in lifetime value includes:

calculating a lifetime value based on contract terms and revenue generated for each of the plurality of new customers; and

calculating the gain in lifetime value by considering a new contract period using the formula  $ER^* - ER_i(0) = GLTV$ .

33. (Original) The computer-readable medium of claim 31, wherein determining a focus for a loyalty and retention includes:

analyzing the shape of the hazard function generated for each of the plurality of new customers; and

specifying a set of marketing techniques based on the shape of the hazard function.

34. (Original) The computer-readable medium of claim 31, wherein determining a focus for a loyalty and retention program includes:

specifying a set of incentives offered to the plurality of new customers based on the gain in lifetime value.

35. (Original) The computer-readable medium of claim 33, wherein specifying the set of marketing techniques based on the shape includes:

determining, based on the shape of the hazard function, there is no effect on churn of a contract expiration.

36. (Original) The computer-readable medium of claim 35, wherein specifying the set of marketing techniques includes:

taking no further steps to deter churn.

37. (Original) The computer-readable medium of claim 33, wherein specifying the set of marketing techniques based on the shape includes:

determining, based on the shape of the hazard function, that there is a small increase in probability of churn at contract expiration, with an elevated post-expiration churn.

38. (Original) The computer-readable medium of claim 37, wherein specifying the set of marketing techniques includes:

having a moderate pre-expiration effort where new contracts or continued contracts are the goal.

39. (Currently amended) The computer-readable medium of claim 33, wherein specifying the set of marketing techniques based on the shape ~~include~~ includes:

determining, based on the shape of the hazard function, that there is a large spike indicating high probability of churn at contract expiration and low probability of churn thereafter.

40. (Original) The computer-readable medium of claim 39, wherein specifying the set of marketing techniques includes:

concentrating effort on pre-expiration of contract where a contract renewal may not be required.

41. (Original) The computer-readable medium of claim 33, wherein specifying the set of marketing techniques based on the shape includes:

determining, based on the shape of the hazard function, that there is a large increase in probability of churn at expiration with high and increasing post-expiration probability of churn.

42. (Original) The computer-readable medium of claim 41, wherein specifying the set of marketing techniques includes:

having a high intensity pre-expiration effort with continued competitive offers to maintain customer.

43. (Original) The computer-readable medium of claim 33, wherein specifying the incentives includes:

determining that value of the set of incentives offered to each of the plurality of new customers does not exceed the gain in lifetime value.

44. (Original) The computer-readable medium of claim 33, wherein analyzing the shape of the hazard function includes:

clustering all of the hazard functions for each of the plurality of new customers so that hazard functions with similar shapes can be grouped together.

45. (Original) The computer-readable medium of claim 44, wherein analyzing the shape of the hazard function includes:

determining, based on the overall shape of the clustered hazard functions, what retention efforts to take to keep a new customer.

46. (Original) A system for evaluating customer value to guide loyalty and retention programs comprising:

means for calculating an individual customer's tenure based on attributes relating to a plurality of current customer accounts;

means for generating a hazard function for each of a plurality of new customers to determine probability of churn based on the individual customer's tenure;

means for calculating a gain in lifetime value for each of the plurality of new customers;  
and

means for determining a focus for a loyalty and retention program based on at least one of the hazard function and gain in lifetime value for each of the plurality of new customers.

47. (Original) The system of claim 46, wherein means for calculating the gain in lifetime value includes:

means for calculating a lifetime value based on contract terms and revenue generated for each of the plurality of new customers; and

means for calculating the gain in lifetime value by considering a new contract period using the formula  $ER^*_i - ER_i(0) = GLTV$ .

48. (Original) The system of claim 46, wherein means for determining a focus for a loyalty and retention includes:

means for analyzing the shape of the hazard function generated for each of the plurality of new customers; and

means for specifying a set of marketing techniques based on the shape of the hazard function.

49. (Original) The system of claim 46, wherein means for determining a focus for a loyalty and retention program includes:

means for specifying a set of incentives offered to the plurality of new customers based on the gain in lifetime value.

50. (Currently amended) The system of claim ~~48~~ 48, wherein means for specifying the set of marketing techniques based on the shape includes:

means for determining, based on the shape of the hazard function, there is no effect on churn of a contract expiration.

51. (Original) The system of claim 50, wherein means for specifying the set of marketing techniques includes:

means for taking no further steps to deter churn.

52. (Original) The system of claim 48, wherein means for specifying the set of marketing techniques based on the shape includes:

means for determining, based on the shape of the hazard function, that there is a small increase in probability of churn at contract expiration, with an elevated post-expiration churn.

53. (Original) The system of claim 52, wherein means for specifying the set of marketing techniques includes:

means for having a moderate pre-expiration effort where new contracts or continued contracts are the goal.

54. (Currently amended) The system of claim 48, wherein means for specifying the set of marketing techniques based on the shape ~~include~~ includes:

means for determining, based on the shape of the hazard function, that there is a large spike indicating high probability of churn at contract expiration and low probability of churn thereafter.

55. (Original) The system of claim 54, wherein means for specifying the set of marketing techniques includes:

means for concentrating effort on pre-expiration of contract where a contract renewal may not be required.

56. (Original) The system of claim 48, wherein means for specifying the set of marketing techniques based on the shape includes:

means for determining, based on the shape of the hazard function, that there is a large increase in probability of churn at expiration with high and increasing post-expiration probability of churn.

57. (Original) The system of claim 56, wherein means for specifying the set of marketing techniques includes:

means for having a high intensity pre-expiration effort with continued competitive offers to maintain customer.

58. (Original) The system of claim 48, wherein means for specifying the incentives includes:

means for determining that value of the set of incentives offered to each of the plurality of new customers does not exceed the gain in lifetime value.

59. (Original) The system of claim 48, wherein means for analyzing the shape of the hazard function includes:

means for clustering all of the hazard functions for each of the plurality of new customers so that hazard functions with similar shapes can be grouped together.



60. (Original) The system of claim 59, wherein means for analyzing the shape of the hazard function includes:

means for determining, based on the overall shape of the clustered hazard functions, what retention efforts to take to keep a new customer.

61. (New) A method, performed by a processing system, for evaluating customer value to guide loyalty and retention programs comprising:

calculating an individual customer's tenure based on attributes relating to customer accounts;

generating a hazard function for each of a plurality of customers to determine probability of churn based on the individual customer's tenure;

calculating, for each of the plurality of new customers, a gain in lifetime value from a retention effort; and

determining a focus for a loyalty and retention program based on at least one of the hazard function and gain in lifetime value for each of the plurality of new customers.

62. (New) The method of claim 61 further comprising:

implementing the loyalty and retention program based on the determined focus.

63. (New) A method, performed by a processing system, for evaluating customer value to guide loyalty and retention programs comprising:

generating, for each of a plurality of customers, a hazard function to determine a probability of churn for each customer, the hazard function based on attributes relating to customer account information;

identifying a temporal-based retention effort based on the hazard function for each of the plurality of customers;

calculating, for each of the plurality of customers, an expected gain in value from the identified retention effort; and

determining a focus for customer interaction based on the expected gain in value.

Q2 64. (New) The method of claim 63, wherein generating a hazard function comprises: generating a hazard function, based on a reference hazard function model, for each of the plurality of customers.

65. (New) The method of claim 63, wherein the temporal-based retention effort comprises retention actions associated with a first time period and retention actions associated with a second time period.

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